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ABSTRACT

Research has shown that observers' vicarious emotional reactions to an in-group member's facial display of pleasure and pain are highly differentiated and empathetic, while responses to the expressive displays of an out-group member are relatively undifferentiated and indifferent. This study examines the effects of perceived group membership on vicarious emotional responses under conditions of symmetric (concordant) or asymmetric (discordant) contingencies between a coactor's expressive displays. Subjects (N=80) were male undergraduates paid for their participation in a study which they were told examined decision making. Subjects were told that a computer evaluated the scores of participants and made group assignments. Subjects performed decision-making tasks, with one-half of the subjects informed of a third participant (the coactor) involved. Subjects worked through a series of decisions for which they were rewarded with candy or punished by electrical shock. The coactor on videotape displayed pleasure or pain. During exposure to affectively relevant consequences (acquisition) empathetic and counter-empathetic responses were wholly determined by the contingencies operating in the situation, and appeared little affected by social categorization. The influence of group membership of a coactor acted to facilitate generalization of acquired empathy responses in response to members of an in-group following a cooperatively structured situation. (ABL)

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The Conditioning of Counter-Empathy toward In-Group and Out-Group Members

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Paper presented at the 1985 meeting of the Eastern Psychological Association, Boston, MA

ABSTRACT

The present study examined the acquisition and generalization of empathy and counter-empathy toward in-group and out-group members. Results indicate that in-group membership inhibits the generalization of acquired counter-empathy, but facilitates the generalization of empathy. With respect to out-group members, indifference and in some cases counter-empathy, was the most likely outcome. Any acquired empathy was in response to an out-group coactor with whom the subject had had direct experience -- these responses did not generalize. Observers' vicarious emotional responses were assessed through the use of measures of autonomic arousal, EMG measures of facial muscle activation, and retrospective self-reports of felt emotion.

INTRODUCTION

Previous research has demonstrated that observers' vicarious emotional reactions to an in-group member's facial displays of pleasure and pain are highly differentiated and empathetic, while responses to the expressive displays of an out-group member are relatively undifferentiated and appear to reflect indifference (Englis & Lanzetta, 1984). These empathetic reactions to in-group members may in part be a function of a past history of generally concordant emotional experiences with members of naturally occurring in-groups (e.g., Sherif, 1961; Brewer, 1979). Thus, once the category "in-group" is invoked the observer has general expectations of congruence between his or her affective experiences and those of other in-group members. The presence of such expectancies influence vicarious responses (Lanzetta, & Englis, 1982), and ought to facilitate the acquisition of enhanced empathy responses in a situation in which the expressive displays of in-group members signal concordant emotional experiences for the observer (analogous to cooperative encounters). On the other hand, these expectancies should inhibit the acquisition of counter empathy in a situation that involves discordant emotional experiences for participants, analogous to competition (Englis, Vaughan, & Lanzetta, 1982).

The emotional indifference displayed toward the expressive displays of out-group members may be due to a lack of correlation between the emotional experiences of self and those of naturally occurring out-groups (Englis & Lanzetta, 1984). Indeed, a negative correlation would exist between the emotion experienced by self and that displayed by out-group members during competitive and/or hostile encounters (Sherif, 1966; Sherif et al., 1961). This overall "mixed" history suggests that an out-group member's expressive displays are unlikely to have clear-cut predictive significance for the observer's own emotional experience; and are therefore more like "neutral" stimuli. Hence, the most pronounced counter-empathy should be acquired toward an out-group member in a "competitively" structured situation; that is when an out-group member's expressive displays are associated with discordant emotional experiences for the observer. Under a concordant outcome structure empathetic responses should develop toward an out-group member, but such responses should be less intense than those displayed toward an in-group member under similar conditions.

The primary aim of the present experiment was to examine the effects of perceived group membership on vicarious emotional responses under conditions of symmetric (concordant) or asymmetric (discordant) contingencies between a coactor's expressive displays and direct reinforcement for an observer (see Englis, Vaughan, & Lanzetta, 1982). A second objective was to examine the generalization of any acquired vicarious emotional responses to other, unknown, members of the

in-group or out-group.

In his seminal work on intergroup conflict, Sherif (Sherif, et al., 1961) notes that competitive interactions between groups results in increased out-group discrimination as well as an escalation of antagonistic and "hostile" behavior toward members of the out-group. Moreover, antagonistic intergroup behaviors generalize to the out-group as a whole and are not restricted only to those engaged in the competitive encounter. Since fewer distinctions are perceived between different members of out-groups (Bass & Duntemanm 1963), out-group members ought to represent a more "homogeneous" stimulus set. Therefore, it was predicted that acquired counter-empathetic responses would readily generalize to members of the out-group but empathy, being less consistent with general expectations regarding relationships with out-group members, would not.

In-group members are generally expected to respond cooperatively (Wilson & Wong, 1968), and are perceived in less of a stereotyped fashion -- each in-group member is more distinctive (Doise et al., 1972). Hence it was expected that any counter-empathy acquired toward a particular in-group member would not readily generalize to other members of the in-group. However, since symmetric conditioning confirms the general expectancy of shared affective experience with in-group members, subjects should acquire strong and highly generalized empathy response toward the in-group.

A "minimal group identity" induction was used to create the belief that a coactor was either an in-group or out-group member (Tajfel, 1972; Locksely, Ortiz, & Hepburn, 1980). Subjects were involved in a joint "decision-making" task with a coactor so that reward and punishment could be presented to each -- the context for the coactor's expressive behavior. The coactor's expressive displays were made either symmetric with the outcomes received by the subject or asymmetric (Englis, Vaughan, & Lanzetta, 1982). Autonomic, facial EMG, and subjective reports of emotional arousal are obtained as indices of the strength and nature of the emotions vicariously aroused in observers by the coactor's displays of pain and pleasure (see Table 1).

METHOD

Subjects. 80 male undergraduates were recruited from the Dartmouth College campus, and paid six dollars for participating in an experiment titled "Decision Making."

Procedure. A computer-administered "concept-formation" task was presented under the guise of a pretest designed to determine subjects' most likely

problem-solving strategy. Subjects were lead to believe that the computer evaluated the scores of both participants and made group assignments according to similarity in problem-solving strategy (Englis & Lanzetta, 1984). Subjects wore a lab coat that matched the color worn by the coactor in the In-group condition or did not match in the Out-group condition (Tajfel, 1972).

In a different laboratory room the subject was seated before the task displays and a television monitor. Written instructions were used to describe the experiment and instruct the subject in the decision-making task. For one-half of the subjects the task instructions described the second or "observation" phase of the experiment as involving a third participant, the Novel coactor.

The experimeter then attended to electrode placement for the measures of heart-rate, skin resistance, and the four facial EMG recording sites (see Figure 1). Rewards for "success" trials were fixed as two M&M candies delivered through a small chute -- these were tokens that were worth 10¢ each. Punishment was in the form of electric shocks; a shock scaling procedure was used by each participant. Shock intensity was increased in gradual steps and subjects selected a level of shock which they found uncomfortable and aversive, although not painful.

The task involved working through a series of "investment" decisions based on evaluation of information about market and environmental conditions. It was stressed that the outcomes (shock or reward) would be determined by both participants' responses. Within this task it was possible to present subjects with a coactor's displays of pleasure and pain and to reinforce the subject directly. The coactor's behavior was presented to subjects via a computer-monitored pre-recorded videotape, which allowed events in the subject's room to be synchronous with those occurring on the tape. The beginning of this tape showed a grey leader, with the image of the coactor slowly faded in; the coactor was first seen in a "full-body" shot so that his white lab coat was visible; subjects in the Out-group condition wore a dark blue lab coat. The camera "zoomed" in to show a full-face close up of the coactor; this was done in such a way as to appear manually controlled by the experimenter as he gave final instructions to the coactor.

Subjects were told that they had been randomly assigned to act as observers during the entire session. During this explanation, the experimenter turned away a video camera that had been aimed at the subject and switched on the subject's monitor. The course of acquisition involved the pairing of the coactor's smile with shock and his grimace with reward for subjects in the Asymmetry condition, while the Symmetry group was exposed to smile/reward -- grimace/shock pairings. Eight reinforced trials of each type were presented, with unreinforced, test, trials situated following the first, fourth, and seventh reinforced trials of each type. (The actual conditioning procedure was similar to that used in a previous study -- Englis, Vaughan, & Lanzetta, 1982.)

After the last acquisition trial the experimenter removed the subject's shock

electrodes and asked him to fill out a questionnaire that had the subject rate the task and his own performance. One half of the sample was told that they would observe the next participant work at the task alone. This second coactor was a member of the same group as the coactor of the acquisition phase. The remaining subjects observed the same coactor during the vicarious phase as they had interacted with during the acquisition phase.

Following eight vicarious response trials, subjects filled out a second questionnaire that included ratings of their affective response while observing the coactor display pleasure and distress during the Vicarious phase. This scale was a modified version of Izard's (1977) Differential Emotions Scale (see McHugo, Lanzetta, and Smith, 1982). All subjects were then fully debriefed as to the true nature of the experiment.

RESULTS

The psychophysiological data were scored as phasic responses by taking the average level of activation during the coactor's expressive display (eight-second period) and subtracting from that score the average level of activation during the six-second pre-expressive recording interval on each trial (e.g., Prokasy & Kumpfer, 1972).

As noted in Table 1 the acquisition of counter-empathy and the presence of empathy should be evinced by an interaction between the Expression of the coactor (smile vs. grimace) and Contingency condition (symmetry vs. asymmetry). Simple contrasts were used to examine this effect on each of three test, or unreinforced, trials during acquisition. This simple interaction was not present on the first test trial, was marginal on the second test trial (MANOVA $F(6,67) = 1.83$, $p = .10$; Averaged $F(6,432) = 2.86$, $p = .01$); and was significant by the third test trial (MANOVA $F(6,67) = 4.28$, $p = .001$; Averaged $F(6,432) = 9.28$, $p \tilde{} 0$). Figure 2 presents the EMG data for this effect; these patterns were indicative of empathy for subjects exposed to Symmetric contingencies and counter-empathy for Asymmetry group subjects.

During the Vicarious phase of the experiment, shock electrodes were removed, and for half of the sample a Novel coactor was introduced (a member of the same group as the first coactor). Simple effects tests were conducted on the difference in observers' vicarious responses to the smiles and grimaces of the coactor for each cell in the design (analyses refer to the average of the first two trials). Subjects exposed to symmetric conditioning showed a pattern of emotional arousal indicative of empathy in response to the Same In-group coactor (MANOVA $F(6,13) = 4.9, .008$; averaged $F(6,54) = 2.59$, $p = .028$)); the same pattern was found in response to a Novel In-group member (MANOVA $F(6,13) = 5.46$, $p = .005$; averaged

F(6,54) = 1.7, p < .05)). In contrast, responses to the displays of either the Same or a Novel Out-group member were undifferentiated following symmetric conditioning.

Following Asymmetric conditioning emotional responses to the displays of either the Same or Novel In-group coactor conditions were undifferentiated. In response to the displays of an Out-group member some indication of counter-empathy was present. Marginal effects were obtained in the Same Out-group coactor condition (Averaged F(6,54) = 2.1, p = .07), and in the Novel Out-group coactor condition (MANOVA F(6,13) = 2.8, p = .06). In both cases the pattern of response was indicative of counter-empathy (Englis, Vaughan, & Lanzetta, 1982).

Analyses of subjects' self-reported emotional responses following the Vicarious phase indicated a strong Contingency by Expression interaction (MANOVA F(4,69) = 3.69, p = .009; averaged F(4,288) = 6.97, p ~ 0), which is illustrated in Figure 3. Simple effects analyses indicate significant Expression effects for all Symmetry conditions (Same In-group coactor -- MANOVA F(4,15) = 27.3, p ~ 0; Same Out-group coactor -- MANOVA F(4,15) = 4.2, p = .018; Novel In-group coactor MANOVA F(4,15) = 19.2, p = ~ 0; Novel Out-group member MANOVA F(4,15) = 6.5, p = .003). In the latter case, however, only reports of joy contributed significantly to the MANOVA effect. In contrast, self reported affect following asymmetric conditioning was undifferentiated in response to the displays of the Same Out-group coactor; responses to the Same In-group coactor were differentiated (MANOVA F(4,15) = 3.02, p = .05), but subjects reported feeling more anger in response to displays of pleasure as compared with displays of pain. In contrast, reports of empathetic emotions were observed in response to a Novel In-group member (MANOVA F(4,15) = 4.5, p = .014). While these responses were evident on all self-report scales, responses to a Novel Out-group member were only empathetic in subjects' reported joy.

CONCLUSIONS

The results accord well with previous findings concerning the conditioning of empathy and counter-empathy (Englis, Vaughan, & Lanzetta, 1982) and results concerning the influence of social categorization on the magnitude of observers' empathetic responses (Englis & Lanzetta, 1984). The present experiment extends these findings in several important directions. The results indicate that during actual exposure to affectively relevant consequences (acquisition), empathetic and counter-empathetic responses are wholly determined by the contingencies operating in the situation, and appear little affected by social categorization. That is, participants responded counter- empathetically in the presence of an

asymmetry between their own affective experiences and those of either an in-group or an out-group coactor, but responded empathetically when the affective experiences of self and other were aymmetric.

However, the results do not indicate the complete absence of a social categorization effect since once the participant was not subject to direct affect-eliciting outcomes, the magnitude and nature of his vicarious emotional response was jointly determined by recent conditioning experiences as well as the group membership of the coactor. Following an concordance between the emotions experienced by self and those of an in-group coactor, observers react empathetically to the coactor as well as to another, unknown, in-group member. In contrast, the same concordance between the emotional experiences of an out-group member and those of self do not lead to the generalization of empathy. In this case any acquired empathetic responses do not generalize to other members of the out-group.

When the emotional experiences of self and coactor were discordant counter-empathy was only observed in response to those with whom the observer had had direct experience, or during the actual encounter; that is when participants were themselves subject to direct outcomes. An unknown out-group member was responded to with indifference, while an unknown in-group member was responded to with mild empathy.

Self-reports of vicarious emotions accord well with the psychophysiological data; in fact evidence of the contingency effects during the vicarious phase were more pronounced in these measures. In addition, some evidence of the influence of perceived group membership was obtained in self-reported emotion. These self-report data suggest that the "constellation" of emotions felt varied as a function of the perceived group membership of the coactor, and not simply as a function of the contingencies present. For example, following asymmetric conditioning reports of sadness and fear were differentiated in response to the displays of an unknown in-group member but undifferentiated in reponse to an unknown out-group member, reported levels of joy were similar in both conditions.

Overall it appears that the influence of the group membership of a coactor acted to facilitate generalization of acquired empathy responses in response to members of an in-group following a "cooperatively structured" situation. In no other condition was comparable evidence of generalization obtained. However, while evidence of counter-empathy was found when the subject was himself subject to emotionally arousing outcomes, only weak evidence of counter- empathy was found once direct outcomes to the subject were no longer possible.

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Table 1. Predicted response patterns for psychophysiological measures of observers' vicarious emotional responses.

Measure	Empathy[a]	Counter-empathy[a]
Autonomic indexes[b]		
Skin conductance	Smile < Grimace	Smile > Grimace
Heart rate	Smile > Grimace	Smile < Grimace
EMG sites[b]		
Orbicularis oculi	Smile < Grimace	Smile > Grimace
Masseter	Smile < Grimace	Smile > Grimace
Zygomaticus major	Smile > Grimace	Smile < Grimace
Medial frontalis	Smile < Grimace	Smile > Grimace

[a] Empathy and counter-empathy responses were assessed in analyses of observers' phasic responses to the coactor's smile versus their responses to the coactor's grimace.

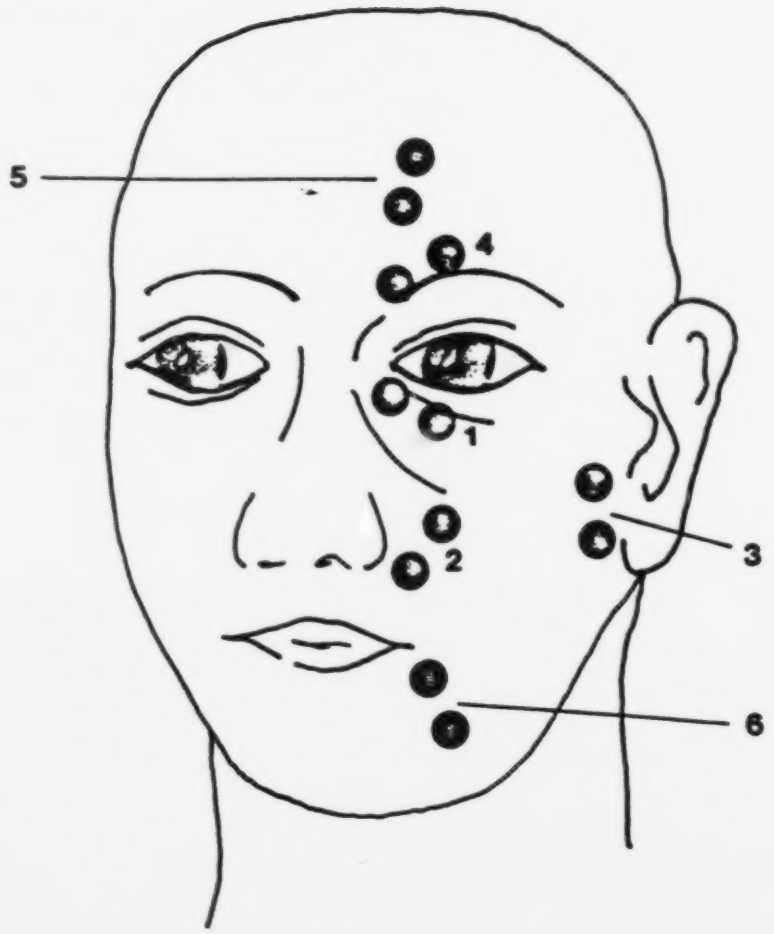
[b] These predictions and their derivation are fully discussed in Englis, Vaughan, and Lanzetta (1982).

FIGURE CAPTIONS

Figure 1. EMG electrode sites used to asses the observer's facial expressive behavior. The present experiment include sites (1) Orbicularis oculi, (2) Zygomaticus major, (3) Masseter, and (4) Occipito-frontalis (medial portion).

Figure 2. Contingency by Expression interactions on the final test trial of the Acquisition phase: • represents Symmetry group responses; o represente Asymmetry group responses.

Figure 3. Contingency by Expression interactions for the self-report scales of subjects vicarious emotional responses during the Vicarious phase: • represents Symmetry group responses; o represents Asymmetry group responses.



1 Orbicularis oculi

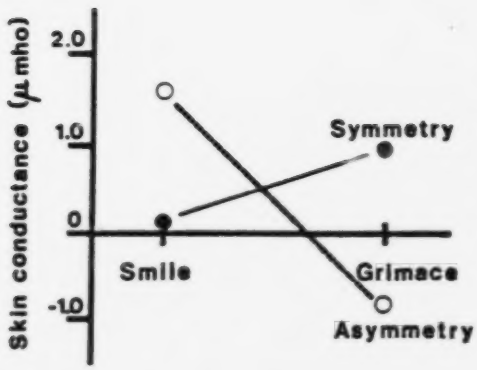
2 Zygomaticus major

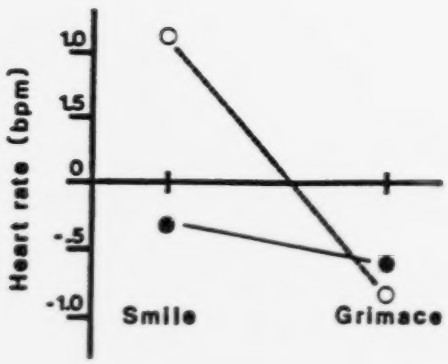
3 Masseter

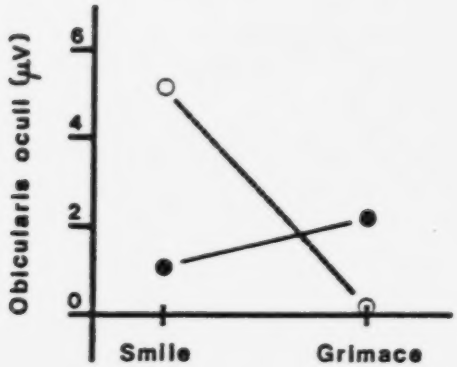
4 Corrugator supercilii

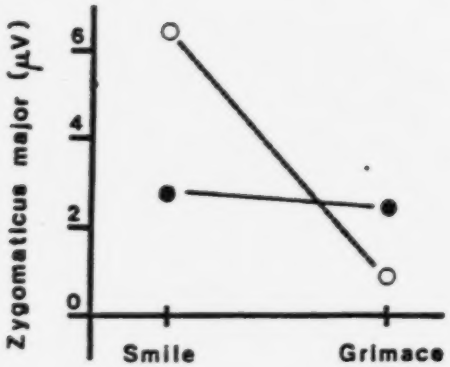
5 Occipito-frontalis (medial portion)

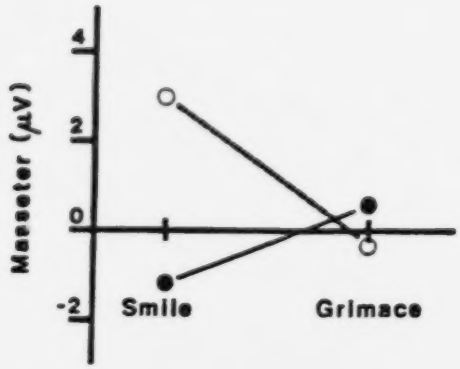
6 Depressor anguli oris

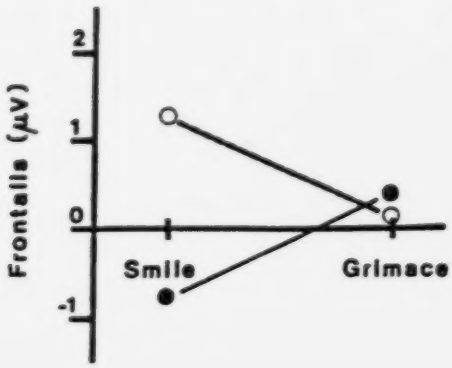

Skin conductance (μmho)
2.0
1.0
0
-1.0
Symmetry
Smile
Grimace
Asymmetry

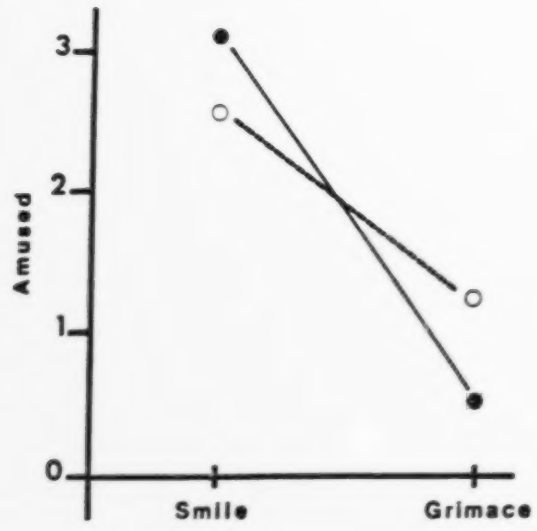

Heart rate (bpm)
10
15
0
-5
-10
Smile
Grimace


Obicularis oculi (μV)
6
4
2
0
Smile
Grimace

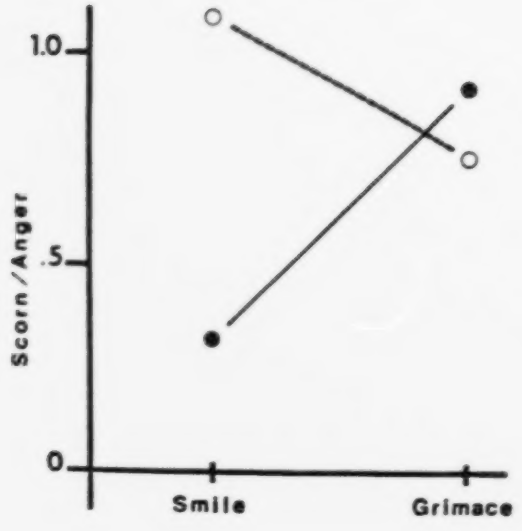

Zygomaticus major (μV)
6
4
2
0
Smile
Grimace

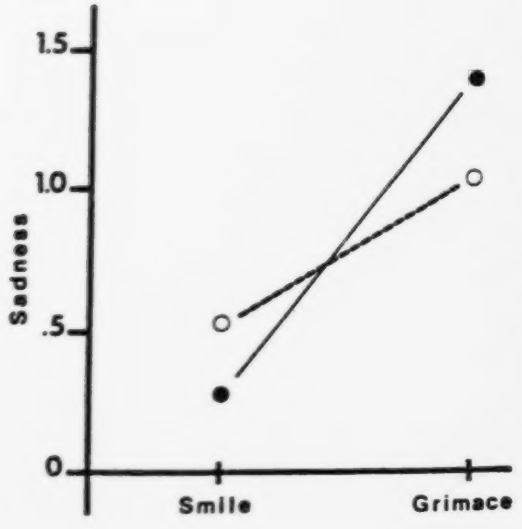

Masseter (μV)
4
2
0
-2
Smile
Grimace


Frontalis (μV)
2
1
0
-1
Smile
Grimace


Amused
3
2
1
0
Smile
Grimace

Fearful
2
1
0
Smile
Grimace


Scorn/Anger
1.0
.5
0
Smile
Grimace


Sadness
1.5
1.0
.5
0
Smile
Grimace